

IN THE CLAIMS

Please amend the claims as indicated below:

1. (Currently Amended) A device adapted to be used in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, in which a first unit communicates with a second unit using a common frequency, the device comprising:
means for detecting an offset between the common frequency used by the first unit and the second unit in a first signal transmitted by the first unit and received by the second unit; and
means for adjusting the common frequency in accordance with the offset in a second signal to be transmitted by the second unit and to be received by the first unit so that the effects of the offset to be perceived by the first unit will be substantially reduced.

2. (Original) A device according to claim 1, wherein the common frequency is a carrier frequency.

3. (Canceled).

4. (Original) A device according to claim 2, wherein the means for detecting the offset includes means for performing a correlation on a digital representation of the first signal so as to lock onto the offset in the carrier frequency.

5. (Original) A device according to claim 2, wherein the means for adjusting the common frequency includes a means for digitally shifting data in frequency to be transmitted in accordance with the carrier frequency and the offset.

6-7. (Canceled).

8. (Original) A device according to claim 2, wherein the means for detecting the offset includes means for locking onto the offset in the carrier frequency and for producing an output signal corresponding thereto.

9. (Original) A device according to claim 8, wherein the means for adjusting the common frequency includes means for variably adjusting a reference frequency output by a crystal oscillator in accordance with the output signal generated by the locking means.

10-14. (Canceled).

15. (Currently Amended) A method adapted to be used in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, in which a first unit communicates with a second unit using a common frequency, the method comprising:
detecting an offset between the common frequency used by the first unit and the second unit in a first signal transmitted by the first unit and received by the second unit;
adjusting the common frequency in accordance with the offset in a second signal to be transmitted by the second unit and to be received by the first unit so that the effects of the offset to be perceived by the first unit will be substantially reduced.

16. (Original) A method according to claim 15, wherein the common frequency is a carrier frequency.

17. (Canceled).

18. (Original) A method according to claim 16, wherein the step of detecting the offset includes performing a correlation on a digital representation of the first signal so as to lock onto the offset in the carrier frequency.

19. (Original) A method according to claim 16, wherein the step of adjusting the common frequency includes digitally shifting data in frequency to be transmitted in accordance with the carrier frequency and the offset.

20-21. (Canceled).

22. (Original) A method according to claim 16, wherein the step of detecting the offset includes locking onto the offset in the carrier frequency and producing an output signal corresponding thereto.

23. (Original) A method according to claim 22, wherein the step of adjusting the common frequency includes variably adjusting a reference frequency output by a crystal oscillator in accordance with the output signal generated by the locking means.

24-28. (Canceled).

29. (Original) A device adapted to be used in a first unit that can communicate with a second unit using a common carrier frequency, the device comprising:

A
cont
a frequency lock loop that is coupled to receive a digital representation of a first signal transmitted by the second unit, the frequency lock loop being adapted to detect a carrier frequency offset in the first signal and to produce offset information corresponding thereto; and

a frequency shift block that is coupled to receive the offset information and data to be transmitted by the first unit in a second signal to be received by the second unit, the frequency shift block being adapted to digitally shift the data in frequency in accordance with the common carrier frequency and the carrier frequency offset so that the effects of the carrier frequency offset to be perceived by the second unit will be substantially reduced.

30. (Canceled).

31. (Original) A device adapted to be used in a first unit that can communicate with a second unit using a common carrier frequency, the device comprising:

a frequency lock loop that is coupled to receive a digital representation of a first signal transmitted by the second unit, the frequency lock loop being adapted to detect a carrier frequency offset in the first signal and to produce an analog offset signal corresponding thereto;

a crystal oscillator that supplies a reference frequency for modulating a second signal to be perceived by the second unit in accordance with the common carrier frequency;
and
a variably adjustable device coupled to receive the offset signal and to the crystal oscillator, the variably adjustable device being adapted to adjust the reference frequency of the crystal oscillator in accordance with the offset signal so that the effects of the carrier frequency offset in the second signal to be perceived by the second unit will be substantially reduced.

32-33. (Canceled).

AI
Const

34. (Currently Amended) A device adapted to be used in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, in which a first unit communicates with a second unit using a common frequency, the device comprising:
means for detecting an offset between the common frequency used by the first unit and the second unit in a first signal transmitted by the first unit and received by the second unit;
means for communicating information corresponding to the detected offset from the second unit to the first unit;
means for adjusting the common frequency in accordance with the offset in a second signal to be transmitted by the first unit and to be received by the second unit so that the effects of the offset to be perceived by the second unit will be substantially reduced.

35. (Currently Amended) A device adapted to be used in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, in which a first unit communicates with a second unit using a common frequency, the device comprising:
means for detecting an offset between the common frequency used by the first unit and the second unit in a first signal transmitted by the first unit and received by the second unit;

AT
Concl

means for communicating information corresponding to the detected offset from the second unit to the first unit;

means for adjusting the common frequency in accordance with the offset in a second signal to be transmitted by the second unit and to be received by the first unit so that the effects of the offset to be perceived by the first unit will be substantially reduced.
